

PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books
Search	PubMed	for lipoprotein associated phospholipase A2 OR Lp					Preview	Go
Clear								
<input checked="" type="checkbox"/> Limits <input type="checkbox"/> Preview/Index History <input type="checkbox"/> Clipboard <input type="checkbox"/> Details								

- Search History will be lost after one hour of inactivity.
- To combine searches use # before search number, e.g., #2 AND #6.
- Search numbers may not be continuous; all searches are represented.

Entrez
PubMed

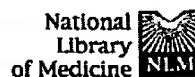
Search	Most Recent Queries	Time	Result
#19	Search lipoprotein associated phospholipase A2 OR Lp-PLA2 Field: Title/Abstract, Limits: Publication Date from 1980 to 1993	14:08:01	<u>14</u>
#18	Search lipoprotein associated phospholipase A2 OR Lp-PLA2 Field: Title/Abstract, Limits: Publication Date from 1980 to 1993	14:07:49	<u>0</u>
#15	Search PAF acetyl hydrolase Field: Title/Abstract, Limits: Publication Date from 1980 to 1993	14:03:48	<u>14</u>
#13	Search #10 AND #12 Field: Title, Limits: Publication Date from 1990 to 1993	13:56:42	<u>95</u>
#12	Search purification OR isolation OR characterization Field: Title, Limits: Publication Date from 1990 to 1993	13:49:51	<u>28291</u>
#10	Search phospholipase A2 Field: Title, Limits: Publication Date from 1990 to 1993	13:48:38	<u>992</u>
#7	Search phospholipase A2 Field: Title, Limits: Publication Date from 1980 to 1993	13:45:34	<u>2095</u>
#3	Search (phospholipase A2 Field: Title, Limits: Publication Date from 1980 to 1993	13:42:16	<u>2095</u>
#2	Search (phospholipase A2 AND purif Field: Title, Limits: Publication Date from 1980 to 1993	13:42:05	<u>0</u>
#1	Search (phospholipase A2) Field: Title/Abstract, Limits: Publication Date from 1980 to 1993	13:41:14	<u>4963</u>

PubMed
Services

Related
Resources

Clear History

Write to the Help Desk
[NCBI](#) | [NLM](#) | [NIH](#)
 Department of Health & Human Services
[Freedom of Information Act](#) | [Disclaimer](#)



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books
Search PubMed	<input type="checkbox"/>	for	lipoprotein associated phospholipase A2 OR Lp				Go	Clear
<input checked="" type="checkbox"/> Limits	Preview/Index		History		Clipboard		Details	

Field: **Title/Abstract**, Limits: **Publication Date from 1980 to 1993**

Display	Summary	<input type="checkbox"/>	Show: 20	<input type="checkbox"/>	Sort	<input type="checkbox"/>	Send to	Text	<input type="checkbox"/>
Items 1-14 of 14									One page.

Entrez
PubMed

- ☐ 1: Stephens CJ, Graham RM, Yadava OP, Leong LL, Sturm MJ, Taylor RR. Related Articles, Links

Plasma platelet activating factor degradation and serum lipids after coronary bypass surgery.
Cardiovasc Res. 1992 Jan;26(1):25-31.
PMID: 1516109 [PubMed - indexed for MEDLINE]

PubMed
Services

- ☐ 2: Stremler KE, Stafforini DM, Prescott SM, McIntyre TM. Related Articles, Links

Human plasma platelet-activating factor acetylhydrolase. Oxidatively fragmented phospholipids as substrates.
J Biol Chem. 1991 Jun 15;266(17):11095-103.
PMID: 2040620 [PubMed - indexed for MEDLINE]

Related
Resources

- ☐ 3: Parthasarathy S, Barnett J. Related Articles, Links

Phospholipase A2 activity of low density lipoprotein: evidence for an intrinsic phospholipase A2 activity of apoprotein B-100.
Proc Natl Acad Sci U S A. 1990 Dec;87(24):9741-5.
PMID: 2263624 [PubMed - indexed for MEDLINE]

- ☐ 4: Stremler KE, Stafforini DM, Prescott SM, Zimmerman GA, McIntyre TM. Related Articles, Links

An oxidized derivative of phosphatidylcholine is a substrate for the platelet-activating factor acetylhydrolase from human plasma.
J Biol Chem. 1989 Apr 5;264(10):5331-4.
PMID: 2494162 [PubMed - indexed for MEDLINE]

- ☐ 5: Steinbrecher UP, Pritchard PH. Related Articles, Links

Hydrolysis of phosphatidylcholine during LDL oxidation is mediated by platelet-activating factor acetylhydrolase.
J Lipid Res. 1989 Mar;30(3):305-15.
PMID: 2723538 [PubMed - indexed for MEDLINE]

- ☐ 6: Ishikawa Y, Nishide T, Sasaki N, Shirai K, Saito Y, Yoshida S. Related Articles, Links

Hydrolysis of low-density lipoprotein phospholipids in arterial smooth muscle cells.
Biochim Biophys Acta. 1988 Jul 22;961(2):170-6.
PMID: 3390454 [PubMed - indexed for MEDLINE]

☐ 7: Pritchard PH, Chonn A, Yeung CC.

Related Articles, Links



The degradation of platelet-activating factor in the plasma of a patient with familial high density lipoprotein deficiency (Tangier disease).

Blood. 1985 Dec;66(6):1476-8.

PMID: 4063532 [PubMed - indexed for MEDLINE]

☐ 8: Nichols AV, Blanche PJ, Gong EL, Shore VG, Forte TM.

Related Articles, Links



Molecular pathways in the transformation of model discoidal lipoprotein complexes induced by lecithin:cholesterol acyltransferase.

Biochim Biophys Acta. 1985 May 17;834(3):285-300.

PMID: 3995066 [PubMed - indexed for MEDLINE]

☐ 9: Parthasarathy S, Steinbrecher UP, Barnett J, Witztum JL, Steinberg D.

Related Articles, Links



Essential role of phospholipase A2 activity in endothelial cell-induced modification of low density lipoprotein.

Proc Natl Acad Sci U S A. 1985 May;82(9):3000-4.

PMID: 3857630 [PubMed - indexed for MEDLINE]

☐ 10: Steinbrecher UP, Parthasarathy S, Leake DS, Witztum JL, Steinberg D.

Related Articles, Links



Modification of low density lipoprotein by endothelial cells involves lipid peroxidation and degradation of low density lipoprotein phospholipids.

Proc Natl Acad Sci U S A. 1984 Jun;81(12):3883-7.

PMID: 6587396 [PubMed - indexed for MEDLINE]

☐ 11: Gupta RK, Morton DL.

Related Articles, Links



Studies of a melanoma tumor-associated antigen detected in the spent culture medium of a human melanoma cell line by allogeneic antibody. III.

Physicochemical properties.

J Natl Cancer Inst. 1984 Jan;72(1):83-92.

PMID: 6582306 [PubMed - indexed for MEDLINE]

☐ 12: Nalbone G, Charbonnier-Augeire M, Lafont H, Grataroli R, Vigne JL, Lairon D, Chabert C, Leonardi J, Hauton JC, Verger R.

Related Articles, Links



Adsorption of pancreatic (pro)phospholipase A2 to various physiological substrates.

J Lipid Res. 1983 Nov;24(11):1441-50.

PMID: 6686242 [PubMed - indexed for MEDLINE]

☐ 13: Chacko GK.

Related Articles, Links



Human high density lipoprotein (HDL3) binding to rat liver plasma membranes.

Biochim Biophys Acta. 1982 Jul 20;712(1):129-41.

PMID: 6810941 [PubMed - indexed for MEDLINE]

☐ 14: Morin RJ.

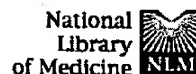
Related Articles, Links



The role of phospholipids in platelet function.

Ann Clin Lab Sci. 1980 Nov-Dec;10(6):463-73. Review.

PMID: 6255856 [PubMed - indexed for MEDLINE]



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books
Search PubMed	for #10 AND #12						Preview	Go
Clear								
<input checked="" type="checkbox"/> Limits <input type="checkbox"/> Preview/Index History <input type="checkbox"/> Clipboard <input type="checkbox"/> Details								

- Search History will be lost after one hour of inactivity.
- To combine searches use # before search number, e.g., #2 AND #6.
- Search numbers may not be continuous; all searches are represented.

Entrez
PubMed

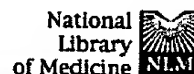
Search	Most Recent Queries	Time	Result
#13	Search #10 AND #12 Field: Title, Limits: Publication Date from 1990 to 1993	13:56:42	<u>95</u>
#12	Search purification OR isolation OR characterization Field: Title, Limits: Publication Date from 1990 to 1993	13:49:51	<u>28291</u>
#10	Search phospholipase A2 Field: Title, Limits: Publication Date from 1990 to 1993	13:48:38	<u>992</u>
#7	Search phospholipase A2 Field: Title, Limits: Publication Date from 1980 to 1993	13:45:34	<u>2095</u>
#3	Search (phospholipase A2 Field: Title, Limits: Publication Date from 1980 to 1993	13:42:16	<u>2095</u>
#2	Search (phospholipase A2 AND purif Field: Title, Limits: Publication Date from 1980 to 1993	13:42:05	<u>0</u>
#1	Search (phospholipase A2) Field: Title/Abstract, Limits: Publication Date from 1980 to 1993	13:41:14	<u>4963</u>

PubMed
Services

Related
Resources

Clear History

Write to the Help Desk
[NCBI](#) | [NLM](#) | [NIH](#)
 Department of Health & Human Services
[Freedom of Information Act](#) | [Disclaimer](#)



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books	
Search	PubMed		for					Go	Clear
<input checked="" type="checkbox"/> Limits Preview/Index History Clipboard Details									
Display Abstract <input type="button" value="v"/> Show: 20 <input type="button" value="v"/> Sort <input type="button" value="v"/> Send to Text <input type="button" value="v"/>									

Entrez
PubMed☐ 1: Biochim Biophys Acta 1993 Nov 24;1179(3):253-9

Related Articles, Links

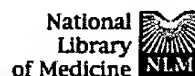
Effects on cultured mammalian cells of myotoxin III, a phospholipase A2 isolated from Bothrops asper (terciopelo) venom.**Butron E, Ghelestam M, Gutierrez JM.**

Departamento de Bioquímica y Nutrición, Facultad de Medicina, Universidad de Panamá, Panamá City.

PubMed
ServicesRelated
Resources

Myotoxin III (MT-III), a myotoxic phospholipase A2 from *Bothrops asper*, was studied with respect to interactions with cultured mammalian cells and red blood cells. Tests of the cytopathogenic effect of MT-III on different cell lines indicated that rat skeletal muscle L6 myoblasts were more sensitive to the toxin than chinese hamster ovary cells, human lung fibroblasts, mouse adrenal tumour cells and rat intestinal epithelial cells. Specific plasma-membrane permeabilization was assayed as release of a cytosolic [3H]uridine nucleotide marker from toxin-treated L6 cells. A dose- and time-related membrane permeabilization was induced at 37 degrees C, but not at 0 degree C. A half-maximal effect was obtained after 20 min. 30 micrograms/ml MT-III induced 50% marker release in 1 h, and the effect was not reversed by post-incubation for up to 48 h in toxin-free medium. The membrane permeabilization in L6 cells did not seem to require cellular internalisation of the toxin. The catalytic site of the toxin was inactivated by alkylation with p-bromophenacyl bromide (BPB). This treatment abolished the toxin's specific PLA2 activity, as assayed in vitro, and reduced the PLA2 activity on the myoblast membrane by more than 95%, as measured by release of [14C]arachidonic acid from prelabelled cells. However, the membrane-permeabilizing effect (release of cytosolic marker) was reduced only by 70% upon modification with BPB. We also report that MT-III is not directly haemolytic, and one reason for this is the inability of the toxin to associate with the membranes of human or mouse erythrocytes. Taken together, the data suggest that MT-III at 37 degrees C binds to and penetrates the plasma membrane of cultured myoblasts, thereby inducing a rapid, direct and irreversible membrane permeabilization. This effect apparently depends in part on the PLA2 activity of the toxin and in part on a molecular region which is separate from the catalytic site.

PMID: 8218369 [PubMed - indexed for MEDLINE]



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books	
Search	PubMed		for					Go	Clear
<input checked="" type="checkbox"/> Limits Preview/Index History Clipboard Details									

Display	Abstract		Show: 20		Sort		Send to	Text	
---------	----------	--	----------	--	------	--	---------	------	--

Entrez
PubMed

☐ 1: J Mol Recognit 1992 Dec;5(4):145-53

[Related Articles, Links](#)

Recombinant human secretory phospholipase A2: purification and characterization of the enzyme for active site studies.

Stadel JM, Jones C, Livi GP, Hoyle K, Kurdyla J, Roshak A, McLaughlin MM, Pfarr DA, Comer S, Strickler J, et al.

PubMed
Services

Department of Pharmacology, SmithKline Beecham Pharmaceuticals, King of Prussia, PA 19406.

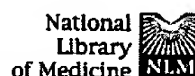
Related
Resources

A secreted form of phospholipase A2 (PLA2) is thought to play an important role in inflammatory diseases. To characterize this enzyme the cDNA encoding a low molecular weight PLA2 was cloned from a human placental cDNA library. The cDNA encoding the human PLA2 was subcloned into an expression vector and subsequently transfected into Chinese hamster ovary (CHO) cells. A stable CHO cell clone, secreting ca 1 mg/L of recombinant PLA2 into the medium, was scaled up in culture to 180 L. The recombinant enzyme was purified from the cell supernatant to apparent homogeneity by a novel procedure combining adsorption to poly(vinylidene difluoride) membranes, ion exchange chromatography and size exclusion chromatography. The final recovery of PLA2 activity was 58%. A direct comparison between the purified recombinant human PLA2 and PLA2 purified from human synovial fluid, including molecular weight, antigenicity, ionic dependence, substrate specificity and sensitivity to known PLA2 inhibitors, indicated that the two enzymes exhibit identical biochemical properties. These results show that the recombinant PLA2 can be efficiently expressed and purified in sufficient quantities to characterize the enzyme active site, to aid in the rational development of PLA2 inhibitors as potential anti-inflammatory drugs, and to investigate further the role of PLA2 in inflammatory disease.

PMID: 1339483 [PubMed - indexed for MEDLINE]

Display	Abstract		Show: 20		Sort		Send to	Text	
---------	----------	--	----------	--	------	--	---------	------	--

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books	
Search	PubMed	<input type="checkbox"/>	for					Go	Clear
<input checked="" type="checkbox"/> Limits Preview/Index History Clipboard Details									

Display	Abstract	<input type="checkbox"/>	Show: 20	<input type="checkbox"/>	Sort	<input type="checkbox"/>	Send to	Text	<input type="checkbox"/>
---------	----------	--------------------------	----------	--------------------------	------	--------------------------	---------	------	--------------------------

☐ 1: J Biol Chem 1989 Apr 5;264(10):5331-4

Related Articles, Links

Entrez
PubMed

FREE full text article at
www.jbc.org

An oxidized derivative of phosphatidylcholine is a substrate for the platelet-activating factor acetylhydrolase from human plasma.

Stremler KE, Stafforini DM, Prescott SM, Zimmerman GA, McIntyre TM.

PubMed
Services

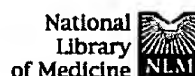
Nora Eccles Harrison Cardiovascular Research and Training Institute, University of Utah, Salt Lake City 84112.

Related
Resources

Platelet-activating factor (PAF) is a glycerophospholipid that has diverse potent biological actions. A plasma enzyme catalyzes the hydrolysis of the sn-2 acetoxy group of PAF and thereby abolishes its bioactivity. This PAF acetylhydrolase is specific for phospholipids, such as PAF, with a short acyl group at the sn-2 position. The majority of it (60-70%) is associated with low density lipoprotein (LDL), and the remainder is with high density lipoprotein (HDL). LDL also has a phospholipase A2 activity that is specific for oxidized polyunsaturated fatty acids, which may be important in determining how LDL is recognized by cellular receptors. We previously have purified and characterized the PAF acetylhydrolase from human plasma. We now have found that the purified PAF acetylhydrolase catalyzes the hydrolysis of the oxidized fragments of arachidonic acid from the sn-2 position of phosphatidylcholine. One of the preferred substrates appeared by mass spectrometry to have 5-oxovalerate at the sn-2 position. We synthesized 1-palmitoyl-2-(5-oxovaleroyl)-sn-glycero-3-phosphocholine and found that the PAF acetylhydrolase had the same apparent K_m for it (11.3 μM) as for PAF (12.5 μM), with V_{max} values of 100 and 167 $\mu\text{mol/h/mg}$ of protein, respectively. We also conclude that the PAF acetylhydrolase is the sole activity in LDL that degrades oxidized phospholipids since we found co-localization of the activity against both substrates to LDL and HDL, and precipitation of enzyme activity with an antibody to the PAF acetylhydrolase. Thus, the PAF acetylhydrolase in human plasma degrades oxidized phospholipids, which may be involved in the modification of apolipoprotein B100 and other pathological processes.

PMID: 2494162 [PubMed - indexed for MEDLINE]

Display	Abstract	<input type="checkbox"/>	Show: 20	<input type="checkbox"/>	Sort	<input type="checkbox"/>	Send to	Text	<input type="checkbox"/>
---------	----------	--------------------------	----------	--------------------------	------	--------------------------	---------	------	--------------------------



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Books	
Search	PubMed	<input type="checkbox"/>	for					Go	Clear
		<input checked="" type="checkbox"/> Limits	Preview/Index	History	Clipboard	Details			
Display		Abstract	<input type="checkbox"/>	Show: 20	<input type="checkbox"/>	Sort	<input type="checkbox"/>	Send to	Text

☐ 1: J Lipid Res 1989 Mar;30(3):305-15

Related Articles, Links

FREE full text article at
www.jlir.org

Hydrolysis of phosphatidylcholine during LDL oxidation is mediated by platelet-activating factor acetylhydrolase.

Steinbrecher UP, Pritchard PH.

Department of Medicine, University of British Columbia, Vancouver, Canada.

Degradation of phosphatidylcholine to lysophosphatidylcholine occurs during oxidative modification of low density lipoproteins (LDL). In this study, we have shown that this phospholipid hydrolysis is brought about by an LDL-associated phospholipase A2 that can hydrolyze oxidized but not intact LDL phosphatidylcholine. The chemical nature of the oxidized phospholipids that can act as substrates for this enzyme was not fully characterized, but we hypothesized that the specificity of the enzyme for oxidized LDL phosphatidylcholine might be explained by fragmentation of polyunsaturated sn-2 fatty acyl groups in LDL phosphatidylcholine during oxidation. To facilitate characterization of this enzyme, we therefore selected a fluorescent phosphatidylcholine substrate that had a short-chain, polar residue in the sn-2 position: 1-palmitoyl 2-(6-[7-nitrobenzoxadiazolyl]amino) caproyl phosphatidylcholine, (C6NBD PC). This substrate was efficiently hydrolyzed by LDL, but the dodecanoyl analogue of C6NBD PC, which differed only in that a 12-carbon rather than a 6-carbon acyl derivative was present in the sn-2 position, was not hydrolyzed. The phospholipase activity was heat-stable, calcium-independent, and was inhibited by the serine esterase inhibitors phenylmethylsulfonyl-fluoride and diisopropylfluorophosphate, but was resistant to p-bromophenacylbromide and dithiobisnitrobenzoic acid. The phospholipid hydrolysis could not be attributed to the action of lecithin:cholesterol acyltransferase or lipoprotein lipase. Nearly all of the activity in EDTA-anticoagulated normal plasma was physically associated with apoB-containing lipoproteins, but this apoprotein was not essential as enzyme activity was present in plasma from abetalipoproteinemic patients. These properties are very similar to those recently reported for human plasma platelet-activating factor (PAF) acetylhydrolase. In the present study, we found that acylhydrolase activity against C6NBD PC, PAF, and oxidized phosphatidylcholine copurified through gel filtration and ion-exchange chromatography. Substrate competition was demonstrated between C6NBD PC, PAF, and oxidized 2-arachidonyl phosphatidylcholine, suggesting that a single enzyme was active against all three substrates. The enzyme had an apparent

Entrez
PubMed

PubMed
Services

Related
Resources

molecular weight of 40,000-45,000 by high pressure gel exclusion chromatography. Inhibition of this activity with disopropyfluorophosphate prior to oxidative modification of LDL prevented phospholipid hydrolysis but did not affect the production of thiobarbituric acid reactive compounds or the change in electrophoretic mobility. In addition, this inhibition of phospholipase did not prevent the rapid degradati

PMID: 2723538 [PubMed - indexed for MEDLINE]

Display	Abstract	▼	Show: 20	▼	Sort	▼	Send to	Text	▼
---------	----------	---	----------	---	------	---	---------	------	---

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)